An Assessment of Asthma Needs in Hawaii

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Abstract

The Hawaii State Asthma Control Program, as a part of state planning, disseminated and collected an asthma needs questionnaire aimed at answering this question: "In your opinion, what asthma-related issues need to be better addressed in Hawaii?" The top five areas of need identified by asthma stakeholders were (1) education, (2) disease management, (3) prevention, (4) healthcare, and (5) support.

Introduction

Recent data (2002) from Hawaii's Behavioral Risk Factor Surveillance System (BRFSS) suggests that 9.7% or 28,600 children in Hawaii currently have asthma. Furthermore, it is estimated that 6.9% or 64,000 adults in Hawaii also currently have asthma.[1]

The current body of knowledge clearly shows that asthma is a complex disease that requires a long-term and multifaceted solution. Appropriate medical care is necessary for proper control of asthma symptoms and its long-term sequelae. This includes educating, treating, and providing ongoing medical care and monitoring for people with asthma, changing behaviors that lead to asthma or make it worse, and eliminating or avoiding triggers.[2]

Although Hawaii has a well established and functioning healthcare delivery system, the capacity of this "system" to deliver comprehensive and appropriate asthma care has not been assessed in recent years. To address this issue, the Hawaii State Asthma Control Program embarked on a project to assess the capacity of Hawaii's current asthma healthcare delivery system and identify specific areas of need. In order to complete this project, the Hawaii State Asthma Control Program, through the guidance of the Hawaii Asthma Initiative Data Work Group developed, disseminated, collected, and analyzed two versions of an asthma needs assessment questionnaire (paper and pencil) that were designed to capture the perspectives of asthma stakeholders regarding a simple and straightforward question: "In your opinion, what asthma-related issues need to be better addressed in Hawaii?"

Methods

The Hawaii Asthma Initiative Data Work Group created two versions (A and B) of a questionnaire, each designed to capture different levels of information from a broad spectrum of asthma stakeholders. These surveys were distributed to asthma stakeholders (potential survey respondents) included on a comprehensive list that was created through three main sources: (1) a mailing list of 1471 licensed physicians compiled by the Disease Investigations Branch, Hawaii State Department of Health (DOH); (2) a mailing list of 225 pharmacies compiled by the Food and Drug Branch, DOH; and (3) various existing resource directories compiled by other governmental agencies and non-profit organizations.

The purpose of the "Version A" questionnaire was twofold: to capture broad, categorical, and quantifiable information regarding needs relative to asthma care, and to prioritize these needs based on the collective perspective of a broad spectrum of asthma stakeholders statewide. This questionnaire consisted mainly of closed-ended questions with some flexibility built in for qualitative responses. The "Version A" questionnaire was distributed to 2,300 stakeholders statewide.

The "Version B" questionnaire was designed to capture the views of stakeholders on a more qualitative and "open-ended" manner. The results of the "Version B" questionnaire were used to obtain information on a more "granular" scale, expanding on the broad, categorical information gleaned from the "Version A" questionnaire. First, respondents of the "Version B" questionnaire were asked to prioritize pre-determined asthma-related areas of need. The pre-determined asthma-related areas of need were identified in a previous informal survey that was carried out during an earlier statewide asthma meeting. Second, respondents were asked to provide their personal views of each prioritized area of need. The "Version B" questionnaire was distributed to 180 stakeholders statewide. In addition to capturing information on areas of need regarding asthma, both versions of the questionnaire captured basic demographic information of respondents such as geographic location, profession, and organization/agency affiliation. Questionnaires were sent out via mail, email, and fax. Prospective respondents were provided with two methods for completing and returning the questionnaires: fax or mail via stamped return envelope. Incentives were not

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provided for completed and returned questionnaires. This project was not designed as a research project; therefore, measures of validity and reliability were not carried out. There were no attempts to query non-respondents.

Quantitative analysis consisted of basic descriptive statistics (demographic information) as well as prioritizing nine categorical areas of need based on mean rank scores of the "Version A" questionnaire. Qualitative information collected through the "Version B" questionnaire was organized and categorized based on common themes that emerged through an informal "mapping" process. The common themes, in turn, provided an expanded description of the prioritized areas of need identified though the "Version A" questionnaire. Statistical analysis was performed on Epi Info 2000 and Excel software by the Hawaii State Asthma Control Program staff.

Results

Of the 2300 "Version A" questionnaires distributed statewide, 336 were returned, providing a return rate of 15%, exceeded the anticipated goal of 10%. Of the 180 "Version B" questionnaires sent out, 66 were returned, providing a return rate of 37%, also exceeding the anticipated return rate of 20%. Nearly 70% of the respondents were from the island of Oahu. The remaining 30% were from the islands of Maui, Molokai, Lanai, Kauai, and Hawaii. Table One illustrates the response frequency by island, for "Versions A and B" questionnaires combined. Respondents were able to identify themselves from a list of 22 categories which best described their area of work and/or relationship to asthma care/management. Respondents were given the opportunity to select from as many categories as they desired. As such, the responses were not mutually exclusive. Over 50% of the respondents were physicians. From this group, pediatricians, internists, and family practitioners were the top three physician types that responded to the questionnaire. Non-physician healthcare providers were the next largest group to respond at 24%, of which over half were pharmacists. Table Two illustrates the response frequency by profession, for "Versions A and B" questionnaires combined. A broad spectrum of agencies, facilities, and service organizations were also represented. This group consisted of individuals from hospitals, educational services and/or providers, community health centers, the Department of Health, as well as managed care organizations and health maintenance organizations, etc. Table Three illustrates the response frequency by organization/agency affiliation, for "Versions A and B" questionnaires combined.

Table Four illustrates the prioritization of the areas of need based on the findings of the "Version A" questionnaire. (1) Education was ranked as the number one general area of need, followed by (2) disease management, and (3) prevention. This was followed by (4) access to healthcare, (5) support, (6) resources, (7) data, (8) socio-economic status, and (9) policy.

Respondents of the "Version A" questionnaire were provided with an opportunity to prioritize sub-areas of need for each general area of need. For example, education, ranked as the highest priority general area of need, was further categorized based on the following sub-areas of need: patient education, caregiver education, public awareness, community education, professional education, and dissemination of education. Table Five illustrates the prioritization of the sub-areas of need for (1) education, (2) disease management, (3) prevention, (4) healthcare, and (5) support based on the findings of the "Version A" questionnaire.

Table Six provides an expanded and more "granular" description of the three top sub- areas of need related to asthma education, the highest priority area. Table Six depicts the merged results of the "Version A" and "Version B" questionnaires.

Table 1.— Response frequency by island, "Version A and B" questionnaires combined

Category Type	Category	Response Frequency
Island	Oahu	279
	Hawaii	47
	Maui	33
	Kauai	26
	Molokai	5
	Lanai	1

Table 2.— Response frequency by health profession, "Version A and B" questionnaires combined

Category Type	Category	Response Frequency
Healthcare Providers	Physicians	270
	Pharmacists	51
	Registered Nurse	12
	Advanced Practice Registered Nurse	8
	Physician Assistant	4
	Respiratory Therapist	4
	Health Educator	3
	Medical Assistant	2
	Acupuncture / Oriental Medicine	2
	Case Manager (Military)	2
	Occupational Therapist	1
	Certified Asthma Educator	1
	Mental Health Provider	1
	Registered Dietician	1
	Outreach Worker	1
	Medical Representative	1
	Doctor of Public Health	1
	Preschool Health Specialist	1

Table 3.— Response frequency by organization/agency, "Version A and B" questionnaires combined

Category Type	Category	Response Frequency
Organizations and/or Agencies	Hospital	38
	Educational Services and/or Provider	30
	Community Health Center	27
	State Department of Health	27
	Managed Care Org. / Health Maintenance Org.	24
	Research / Academia	19
	Asthma Patient and/or Family	15
	Community-based Organization	12
	Department of Defense	7
	Skilled Nursing Facility	6
	Home Health Care Agency	6
	Coalition / Task Force / Workgroup	6
	Professional Association	6
	Insurer	5
	Social Service Agency	4
	Foundation	3
	Complementary & Alternative Medicine	3
	Long-term Care Facility	3
	Voluntary Organization	3
	Other Government Agency / Elected Official	3
	School-based Health Services	1
	Family Support Services	1
	Physician's Group	1
	Faith-based Organization	1

Table 4.— Prioritized general areas of need, "Version A" questionnaire

General Category	Rank Order	Mean Score
Education	1	2.1
Disease Management	2	2.9
Prevention	3	3.6
Healthcare	4	4.3
Support	5	6.3
Resources	6	6.7
Data	7	6.9
Socio-economic Status	8	7.2
Policy	9	7.8

Discussion

The intent of this project was to gather the views of asthma stakeholders in Hawaii regarding this question: "In your opinion, what asthma-related issues need to be better addressed in Hawaii?" The findings of this "paper and pencil" asthma needs assessment suggest that asthma stakeholders in Hawaii regard asthma education [(1) patient education, (2) caregiver education, (3) public awareness, (4) community education, (5) professional education, and (6) dissemination of education] as the most important asthma-related issue that needs more attention. The following cross-cutting themes have emerged as being important regarding asthma education in general: signs/symptoms/definition of asthma, appropriate care-seeking, asthma triggers and risk factors, proper medication use and compliance, proper method of medication delivery, appropriate use of peak flow meters, asthma action plans, and treatment guidelines.

This project was designed to gather the opinions of asthma stakeholders in an "informal" manner, as opposed to following a research protocol. For example, the questionnaires that were used were not measured for reliability or validity. There were no attempts at querying non-respondents; therefore, biases introduced by self-selection have not been accounted for. Asthma stakeholders were invited to participate in the needs assessment through a "convenience" method as opposed to randomization. As such, these limiting factors do not allow for any kind of generalization of the findings of this project to all asthma stakeholders statewide.

The results of this asthma needs assessment, coupled with the findings of the statewide inventory of preventative services and providers previously carried out by the Hawaii State Asthma Control Program, and data collected through Hawaii's current asthma surveillance "system" will provide the background information necessary to construct a Comprehensive State Asthma Plan document. The Comprehensive State Asthma Plan document will consist of three main sections: (1) a description of Hawaii's current asthma burden, (2) Hawaii's prioritized areas of need relating to asthma, and (3) strategies aimed specifically at ameliorating those asthma-related needs. The process to identify and detail strategies that target Hawaii's asthma-related needs will be carried out through a series of strategic planning meetings that will be held on the islands of Oahu, Maui, Molokai, Lanai, Kauai, and Hawaii. All asthma stakeholders known to the Hawaii State Asthma Control Program staff (identical mailing list used for this survey) will be invited to attend these strategic planning meetings. The Comprehensive State Asthma Plan document will hopefully guide Hawaii's asthma stakeholders in their quest to decrease the burden of asthma in their communities, and ultimately throughout the entire State.

References

1. Centers for Disease Control and Prevention (CDC). *Behavioral Risk Factor Surveillance System Survey Data*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2002.
2. Centers for Disease Control and Prevention (CDC), Air Pollution and Respiratory Health Branch, National Center for Environmental Health, Atlanta, Georgia: Asthma Speaker's Kit for Health Care Professionals, January 2003.

Table 5.— Prioritized sub-areas of need for the top five general areas of need, "Version A" questionnaire

General Area of Need	Rank Order of Related Sub-areas of Need	Response Frequency
Rank #1: Education	(1) Patient Education	278
	(2) Caregiver Education	221
	(3) Public Awareness	172
	(4) Community Education	152
	(5) Professional Education	151
	(6) Dissemination of Education	124
Rank #2: Disease Management	(1) Self-management	259
	(2) Treatment/Clinical Guidelines	214
	(3) Diagnosis	150
	(4) Traditional Practices	65
Rank #3: Prevention	(1) Identification of Asthma Triggers	227
	(2) Early Screening	166
	(3) Identification of Protective Factors	149
	(4) Secondary Prevention	148
Rank #4: Healthcare	(1) Uninsured	196
	(2) Third-party Reimbursement	157
	(3) Cultural Barriers to Care	150
	(4) Language Barriers to Care	141
	(5) Logistical Barriers to Care	130
Rank #5: Support	(1) Self-empowerment	148
	(2) Quality of Life for Persons with Asthma	148
	(3) Support Groups	127
	(4) Patient Navigator	64

Table 6.— Expanded descriptions of the top three sub-areas of need regarding asthma education, "Version A and B" questionnaires combined

General Area of Need: Education (Rank #1)			
Sub-area of need	Patients need to be educated on:	Who needs to be educated?	How is education to be delivered?
Patient Education (1)	• Signs/symptoms of asthma • What is asthma • Appropriate care-seeking • Identification/avoidance of asthma triggers • Importance of compliance regarding follow-up and proper medication use (control vs rescue) • Proper methods of delivery • Asthma severity level • Importance of an asthma action plan • Proper use of peak flow meter • Known risk factors for development of or worsening of asthma (atopy, obesity, tobacco exposure, gastro-esophageal reflux disease, physical activity • Treatment/clinical guidelines	• Children • Adolescents • Adults • Elderly • Employee groups	• Development of educational materials • Self - help • Community programs • Educators
Caregiver Education (2)	• What is asthma • Patient coping skills • Asthma control/prevention • Identification of asthma triggers • Signs/symptoms of asthma • Appropriate care-seeking • Proper medication use and administration • Quality of care	• Caregivers for pediatric population • Caregivers for elderly population • Parents and families of persons with asthma • Day-care centers • Preschools • Schools	• Through standardized – evidence-based/best practice • Through an accessible vehicle
Public Awareness (3)	• Allergy/asthma • Environmental factors • What is asthma • Asthma triggers • Secondhand smoke • Asthma prevention • Available programs • Signs/symptoms • Asthma burden	• Lay public	• All forms of media